

PATENT COOPERATION TREATY

TRANSLATION

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

Date of mailing
(day/month/year)

Applicant's or agent's file reference

00-08062WO

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2006/321607

International filing date (day/month/year)

30.10.2006

Priority date (day/month/year)

10.11.2005

International Patent Classification (IPC) or both national classification and IPC

Applicant

NIKON CORPORATION

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Date of completion of this opinion

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE
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International application No.

PCT/JP2006/321607

Box No. 1

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:



the international application in the language in which it was filed



the translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rule 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

- a. type of material



a sequence listing



table(s) related to the sequence listing

- b. format of material



on paper



in electronic form

- c. time of filing/furnishing



contained in the international application as filed



filed together with the international application in electronic form



furnished subsequently to this Authority for the purposes of search

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has, within the applicable time limit:
- ☐ paid additional fees
 - ☐ paid additional fees under protest and, where applicable, the protest fee
 - ☐ paid additional fees under protest but the applicable protest fee was not paid
 - ☒ not paid additional fees
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:

The "special technical feature" of the inventions set forth in independent claims 1 and 55 relates to first and second polarization members disposed so as to be rotatable around the optical axis of a lighting optical device or an axis almost parallel to the optical axis. The "special technical feature" of the inventions set forth in independent claims 32 and 33 relates to a phase member disposed so as to be rotatable around the optical axis of a lighting optical device or an axis almost parallel to the optical axis. The "special technical feature" of the inventions set forth in independent claims 36 and 37 relates to an optical rotation member disposed so as to be rotatable around the optical axis of a lighting optical device or an axis almost parallel to the optical axis.

This being the case, these inventions are not considered to be so linked as to form a single general inventive concept because there is no technical relationship among these inventions involving one or more of the same or corresponding special technical features.

4. Consequently, this opinion has been established in respect of the following parts of the international application:

- ☐ all parts
- ☒ the parts relating to claims Nos. 1-31, 44-59

WRITTEN OPINION OF THE
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International application No.

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-31, 44-54, 57	YES
	Claims	55, 56, 58, 59	NO
Inventive step (IS)	Claims	1-31, 44-54, 57	YES
	Claims	55, 56, 58, 59	NO
Industrial applicability (IA)	Claims	1-31, 44-59	YES
	Claims		NO
2. Citations and explanations:			
<p>Document 1: WO 2005/050718 A1 (Nikon Corp.), 02 June 2005</p> <p>Document 2: WO 2004/051717 A1 (Nikon Corp.), 17 June 2004</p>			
<p>Claims 55, 56, 58, 59</p> <p>The inventions set forth in claims 55, 56, 58, and 59 do not exhibit novelty or involve an inventive step in the light of Documents 1 and 2 cited in the ISR. Document 1 (see paragraphs [0018], [0028]-[0037], [0051]-[0058], Fig. 1) and Document 2 (see the description, pages 42-46, Fig. 16-18) disclose adjusting the angular position of a one-half wavelength plate and a one-fourth wavelength plate, which are configured so as to be rotatable, based on the detection results of a polarization monitor.</p> <p>Here, the "one-half wavelength plate" and "one-fourth wavelength plate" described in Documents 1 and 2 are equivalent to the "first polarization member" and "second polarization member" of the invention set forth in claim 55. Therefore, Documents 1 and 2 disclose the "polarization state measurement step" and "polarization member rotation step" of the invention set forth in claim 55.</p>			
<p>Claims 1-31, 44-54</p> <p>The inventions set forth in claims 1-31 and 44-54 exhibit novelty and involve an inventive step in the light of the documents cited in the ISR. In particular, providing a first and second polarization member, which impart to incident light an amount of change in polarization status according to an incident position, so as to be rotatable around the center of the optical axis of a lighting optical device is not described in any of the documents cited in the ISR, and moreover could not easily be conceived of by a person skilled in the art.</p>			
<p>Claim 57</p> <p>The invention set forth in claim 57 exhibits novelty and involves an inventive step in the light of the documents cited in the ISR. In particular, measuring the polarization status at a plurality of positions on the illuminated face is not described in any of the documents cited in the ISR, and moreover could not easily be conceived of by a person skilled in the art.</p>			